

## BRIEF BIO-DATA

**1. Name:** Dr.DEVENDRA KUMAR SAKHARE

**2. Date of Birth:** 12/06/1968

**3. Current Position and Address (Include Email ID and Contact Number):**

Sr. Principal Scientist, dksakhre@cimfr.nic.in, 9049122422

**4. Educational qualifications:** (Graduation and above)

Sl. No.	Degree	Year of Passing	University/Institute	Subject
1	B.E.	July-1993	NIT Raipur (CG)	Mechanical Engineering
2	M.E.	July-1996	NIT Raipur (CG)	Energy Systems & Pollution (Mechanical Engg)
3	Ph.D	April-2015	NIT Raipur (CG)	Mechanical Engineering

**5. Work experience:**

Sl. No.	Name of Post	Name of the Organization	Period From To	Nature of work
1.	Junior Research Fellow	Regional Research Laboratory, Bhopal (M.P.)	14/09/1994 to 31/12/1994	Wear properties of steels, metallographic study of farm implements.
2.	Engineer (E&M)	Coal India (Central Coalfield Ltd, Piparwar washery)	14/01/1997 to 31/10/1998	Mechanical Maintenance of Coal Handling Plant & Coal Washery.
3.	Scientist Gr.IV(1)	CSIR-Central Institute of Mining & Fuel Research, Dhanbad	30/11/1998 to 29/11/2002	Refrigeration & Air conditioning, FT-Synthesis, Energy Management.
4.	Scientist Gr.IV(2)	CSIR-Central Institute of Mining & Fuel Research, Dhanbad	30/11/2002 to 29/11/2008	FT- Synthesis of Liquid hydrocarbon from Syngas, DeNOx of Diesel exhausts gases.
5.	Sr. Scientist	CSIR-Central Institute of Mining & Fuel Research, Nagpur	30/11/2008 to 29/11/2012	Dry coal beneficiation, Coal washability, Coal sampling, LASER Coal gasification.
6.	Principal Scientist	CSIR-Central Institute of Mining & Fuel Research, Nagpur	30/11/2012 to 29/11/2017	Dry coal beneficiation, Coal washability, Coal sampling.
7.	Senior Principal Scientist	CSIR-Central Institute of Mining & Fuel Research, Nagpur	30/11/2017 to Till date	Coal sampling, Dry coal beneficiation, Coal washability.

**6. Work Area(s)/ Specialization:** Coal science & Technology, Conventional & Non-conventional energy systems.

**7. Major contributions:** Given a new technology for dry coal beneficiation. Proposed and experimented an innovative concept for instant fuel gas production from coal by using pulsed CO<sub>2</sub> LASER. Working as project leader/ Co-PL/ Member in institute's Mega coal sampling project in which contributing in various ways like manpower management, site visit for coordination, financial management etc. Contributed in development of cobalt based FT synthesis catalyst & DeNO<sub>x</sub> catalyst by working with CSIR sponsored projects.

**8. No. of Research Publications:**

- Papers in Journals: 07 (Seven)
- In conference proceedings: 10 (Ten)
- Invited lectures delivered: 03 (Three)
- List of best 05 publications:

Sl. No.	Title of paper	Authors	Name of journals
1.	Studies of DeNO <sub>x</sub> catalytic activity over some transition metal oxide catalysts	<b>DevendraK.Sakhre</b> , Shobha Lata Sinha and Shripal Singh	Research Journal of Chemistry & Environment, Vol 18 (9) Sept 2014, p 11-16.
2.	The perspectives of Diesel Exhaust emission: Effects & control of NO <sub>x</sub> emission from Diesel Engine	<b>D.K.Sakhare</b> , S.L.Sinha and S.P.Singh	International Journal of Engineering Research & Technology (IJERT), Vol 3, Issue 12, Dec 2014, p 741-747.
3.	Design, development and analysis of Umbrella shape solar hot water device	Shailesh B. Yadav, G.R.Nikhade and <b>D.K.Sakhare</b>	Int. Advance Research J. of Science, Engineering & Technology, Vol-3, Issue 10, Oct 2016, p 53-59.
4.	Coal winnowing : An innovative technique for Dry Coal Beneficiation	<b>D.K. Sakhre</b> , S.P. Singh, R.K. Acharya, R.L. Katley, A.L.V. Prasad and Pragya Chayande	Journal of Coal preparation Society of India, Vol-10, May-2018, No-28, pp 3-13.
5.	Forecasting sector-wise electricity consumption for India using various regression models	Renuka Rekhade, <b>D. K.Sakhare</b>	CURRENT SCIENCE, VOL. 121, NO. 3, 10 AUGUST 2021, pp 355-371.

- Books/Chapters authored/edited: Nil

### 9. List of 5 Major Contract/ R&D Projects:

SI No	Title of project	Sponsorer	Project Cost in INR	Start & closing date	Role
1.	Development of Biomass-to-liquid Technology (BTL) for synthesis of gasoline & middle distillates by FT route from Bio-gasifier derived syngas	M/s Garg Casteel Pvt Ltd, Bhavnagar, (Gujrat)	45.00 Lakh	01/07/2008 30/06/2009	Member
2.	Instant Fuel gas production from coal by pulsed CO <sub>2</sub> LASER	CSIR-EMPOWER	15.20 Lakh	15/09/2010 14/09/2012	Project Leader
3.	Design & development of coal winnowing system for dry beneficiation of coal by CFD modelling & simulation, Phase-I	SSRC-Ministry of Coal	1.824 Crore	01/08/2011 31/07/2013	Project Leader
4.	Optimization of various parameters of Lab scale Coal Winnowing System, Phase-II	SSRC-Ministry of Coal	18.55 Lakh	15/12/2015 14/09/2016	Project Leader
5.	Development of Coal Quality Exploration Technique based on Convolutional Neural Network and Hyperspectral Images	SSRC-Ministry of Coal	1.03 Crore	15/03/2021 14/03/2022	Project Leader

### 10. (a) Name of Patents/Copyrights applied /granted/commercialized: 01 (One)

SI. No.	Title	Inventors	Status
1.	A process for reduction of overall ash percentage of coal. CSIR file no-NF 117/2015, Indian patent office application No. <b>1977DEL2015</b> and is filed on 1 <sup>st</sup> July 2015.	<b>D.K.Sakhare,</b> S.P.Singh. R.K.Acharya, Rahul Mehatre, Swati Singh	Filed in India

(b) Technologies/Products /knowhow/Services developed:  
**Coal Winnowing Technology**

**11. Honors/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received:** CSIR-NET & GATE qualified; Member, Solar Energy Society of India.

**12. Societal Contributions:** Working in Institutes Mega coal sampling project which is contributing towards Thermal power stations efficiency enhancement & reducing the GHG emissions, which ultimately reducing the electricity generation cost of thermal power stations. Development of Coal winnowing system has advantages like low energy consumption for processing coals for ash reduction, No water pollution.